

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) In a digital cable network, a method of using a messaging component, which has a network address, and a single network communication channel for sending and receiving messages by a plurality of threads of execution executing on a cable head end (CHE) which distributes television signals over the digital cable network and communicates with a set top box (STB), the method comprising:

establishing, on the network, a direct connection between the CHE and the STB;

supplying registration information associated with each of the plurality of execution threads executing on the CHE and the STB;

receiving, via the direct connection, a message including a job ticket, at the CHE by the messaging component, the message containing the network address of the messaging component, the message further containing a payload portion for identifying one or more of the execution threads;

the messaging component comparing the contents of the payload portion with the registration information for each of the plurality of execution threads; and

forwarding the received message to the one or more execution threads based on the results of the comparison,

selecting a manner of data transfer based on the received message, which includes selection of a direct transfer using the direct connection between the CHE and the

STB, or a referential transfer using a connection from the CHE to a network server identified from a reference to the network server supplied by the STB;

transferring the data using the selected manner of data transfer; and  
controlling the received job ticket from the CHE.

2. (Previously Presented) A method according to Claim 1, further comprising the step of:

transmitting another message originating from any of the plurality of execution threads executing on the CHE via the messaging component.

3. (Original) A method according to Claim 2, wherein the other message includes a payload portion for identifying one or more of the execution threads executing on another network computer.

4. and 5. (Cancelled)

6. (Original) A method according to Claim 1, wherein the registration information comprises an identifier and a message interest for each of the plurality of execution threads.

7. (Original) A method according to Claim 6, wherein the message interest comprises a message type either alone or in combination with a message ticket.

8. (Original) A method according to Claim 7, wherein the message ticket comprises a unique identifier for use in identifying a specific execution thread.

9. (Previously Presented) A method according to Claim 1, wherein the STB has a messaging component, and wherein any of a plurality of execution threads that execute on the CHE communicate via a corresponding messaging component.

10. (Original) A method according to Claim 1, wherein the network address of the messaging component comprises a socket identifier.

11. (Original) A method according to Claim 1, wherein the network address of the messaging component comprises a MAC address.

12. (Original) A method according to Claim 1, wherein the network address of the messaging component comprises a Network Access Service Point (NSAP) address.

13. (Currently Amended) A method of communicating between a set-top box and a cable head end via a digital cable network, wherein the cable head end distributes television signals over the digital cable network, the method comprising:

establishing a direct connection between the set-top box and the cable head end via a common network communication channel that connects the set-top box and the

cable head end, wherein the common network communication channel is shared by a plurality of applications, or execution subprocesses thereof, to send and receive messages via the digital network;

receiving via the direct connection a message including a job ticket;

controlling the plurality of applications or execution subprocesses to select a manner of data transfer, wherein one of the set-top box and the cable head end is a recipient and one is a transferor, and wherein selection of the manner of data transfer is based on a message received by the recipient and includes selection of a direct transfer using the direct connection between the set-top box and the cable head end, or a referential transfer using a connection from the recipient to a network server identified from a reference to the network server supplied by the transferor;

transferring the data using the selected manner of data transfer; and

controlling the received job ticket from the cable head end.

14. (Currently Amended) In a cable head end (CHE) that distributes television signals over a digital cable network, wherein the CHE executes a messaging component and a plurality of execution threads, a method of determining a manner of transferring data to a set top box (STB), the messaging component having a network address and configured to receive and send network messages for the plurality of execution threads, the method comprising:

receiving a request from one of the execution threads to transfer data to the STB, the request including at least one requirement for carrying out the request;

based at least in part on the received requirement, determining a proposed manner of transfer;

transmitting, using the messaging component, a job ticket including a start message to the STB, the start message including the proposed manner of transfer;

in response to a rejection of the proposed manner of transfer, determining whether an alternative manner of transfer is available; and

responding, using the messaging component, to the rejection with an alternative manner of transfer where one is available,

transferring the data using the selected manner of data transfer; and

controlling the received job ticket from the cable head end,

wherein determining the manner of transfer includes selection of a direct transfer using a direct connection between the CHE and the STB, or a referential transfer using a connection from the STB to a network server identified from a reference to the network server supplied by the network CHE.

15. (Previously Presented) A method according to Claim 14, further comprising the steps of:

determining, by the STB, whether or not the proposed manner of transfer is acceptable; and

transmitting, to the CHE, a response message which indicates an outcome of the determining step.

16. (Previously Presented) A method according to Claim 15, wherein the start message is a portion of a payload of a network message, the payload includes a ticket portion that identifies a network address of the STB, the method further comprising the steps of:

creating a socket with an associated port on the STB, where it is determined that either the proposed or the alternative manner of transfer is acceptable; and

transmitting an indication of the port as part of a payload portion of the response message.

17. (Previously Presented) A method according to Claim 15, wherein the STB comprises a recipient messaging component, at least one execution thread which is an intended recipient of the data transfer, and a job component, and wherein the recipient messaging component forwards the proposed manner of transfer to the job component to determine whether or not the proposed manner of transfer is acceptable and to transmit, to the CHE via the recipient messaging component, a response message which indicates whether or not the proposed manner of transfer is acceptable.

18. (Original) A method according to Claim 17, further comprising:  
receiving, by the job component, the data transfer via the associated port,  
and notifying the at least one recipient thread.

19. (Original) A method according to Claim 18, wherein the data is transferred via shared memory for access to the at least one recipient thread.

20. (Previously Presented) A method according to Claim 15, wherein the proposed manner of transfer indicates a referential transfer, and wherein the network server is referenced in the start message, the method further comprising:

accessing the network server referenced in the start message, wherein the determining step determines whether accessing the network server is successful.

21. (Previously Presented) A method according to Claim 15, wherein the proposed manner of transfer indicates a direct transfer using a specified network protocol, and wherein the step of determining, by the STB, whether the proposed manner of transfer is acceptable further comprises determining whether the specified network protocol is supported on the STB.

22. (Previously Presented) A method according to Claim 21, wherein the step of transmitting a response message further comprises transmitting an indication of a port to which the data transfer is to be directed as part of a payload portion of the response message.

23. (Original) An apparatus for determining a manner of transferring data, said apparatus comprising means for performing the functions specified in any of Claims 14 to 22.

24. (Original) An apparatus comprising:  
a program memory for storing process steps executable to perform a method according to any of Claims 14 to 22; and  
a processor for executing the process steps stored in said program memory.

25. (Original) Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for determining a manner of transferring data, said computer-executable process steps comprising process steps executable to perform a method according to any of Claims 14 to 22.

26. (Previously Presented) apparatus for using a messaging component by a plurality of messaging threads, said apparatus comprising means for performing the functions specified in any of Claims 1 to 3 or 6 to 10.

27. (Previously Presented) An apparatus comprising:  
a program memory for storing process steps executable to perform a method according to any of Claims 1 to 3 or 6 to 10; and  
a processor for executing the process steps stored in said program memory.



28. (Currently Amended) Computer-executable process steps stored on a computer readable medium, said computer-executable process steps for using a messaging component by a plurality of threads of execution, said computer-executable process steps comprising process steps executable to perform a method according to any of Claims ~~1 to 2~~ 1 to 3 or 6 to 10.